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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHICAGO PNEUMATICS

Appeal 2008-6121
Application 10/772,739
Technology Center 3700

Decided¹: February 27, 2009

Before JAMESON LEE, RICHARD TORCZON, and SALLY C.
MEDLEY, *Administrative Patent Judges*.

LEE, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

A. STATEMENT OF THE CASE

This is a decision on appeal by the real party in interest, Chicago Pneumatics (CP), under 35 U.S.C. § 134(a) from a final rejection of claims 56-61 and 70-73. CP requests reversal of the Examiner's rejection of those claims. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

References Relied on by the Examiner

Mitchell, et. al. ("Mitchell")	2,727,598	Dec. 20, 1955
Spring, Sr., et. al. ("Spring")	3,989,113	Nov. 2, 1976
Whitehouse	4,434,858	Mar. 6, 1984

The Rejections on Appeal

The Examiner rejected claims 56-61 and 70-73 under 35 U.S.C. § 103(a) as unpatentable over Mitchell and Spring.

The Examiner rejected claims 56-61 and 70-73 under 35 U.S.C. § 103(a) as unpatentable over Spring and Whitehouse.

The Invention

The invention relates to a modular control apparatus for a power impact tool. (Spec. 1:5-7.)

Claim 56 is reproduced below (Claims App'x 13:2-10):

56. A method of using a modular control apparatus comprising the steps of:

providing a modular control apparatus having a valve in fluid communication with a tool, wherein said apparatus is configured to shut off air flow to the tool after a selected time that torque is being applied by the tool;

- aligning the modular control apparatus to the tool;
- attaching the modular control apparatus to the tool;
- adjusting the flow restriction with the valve to control the output of the modular control apparatus; and
- applying the tool to a workpiece.

B. ISSUES

1. Has CP shown that the Examiner erred in determining that Mitchell discloses a control device that shuts off a flow of air to a pneumatic tool “after a selected time” that torque is applied by the tool?
2. Has CP shown that the Examiner erred in determining that Whitehouse discloses a control device that shuts off a flow of air to a pneumatic tool “after a selected time” that torque is applied by the tool?

C. FINDINGS OF FACT

1. Mitchell discloses a torque controlling device for an impact wrench in which operation of the wrench is “automatically controlled or stopped when the work, such as a nut or bolt, has been tightened to a predetermined degree.” (Mitchell 1:14-19.)
2. In Mitchell, an impact wrench includes an impact clutch housing 10 at a forward end of the wrench, a rotary pneumatic motor housing 11 centrally located, and a valve block 12 at a rear end of the wrench. (Mitchell 2:67-3:3.)
3. In order to prevent the wrench from twisting a bolt 17 beyond a desired degree of tightness, the valve block 12 includes a torque controlling device. (Mitchell 4:31-40.)

4. The torque controlling device includes an inertia cam 42 that engages an inertia ring 46. (Mitchell 4:41-50).

5. Inertia ring 46 is adapted to rotate with inertia cam 42 until a sudden and rapid reduction in the rotational speed of the inertia cam. (Mitchell 4:50-56.)

6. When the speed of inertia cam 42 is rapidly reduced, inertia ring 46 continues to rotate, which causes actuation of an auxiliary torque limiting valve 29. (Mitchell 4:52-65; 5:48-55.)

7. Actuation of valve 29 causes air from an air supply passage 23 to be cut off causing the wrench's pneumatic to shut off (Mitchell 5:55-69.)

8. Whitehouse discloses a torque control shut-off device 52 that operates to shut off air flow to a tool motor 14 after a predetermined level of torque is reached. (Whitehouse 5:35-37.)

9. To enable the shut-off, device 52 includes a valve 112 that is "designed to be responsive to variations in motor operating pressure." (Whitehouse 5:37-40.)

10. Whitehouse further discloses that (Whitehouse 7:26-30):

Since motor operating pressure is a function of the load on motor 14, the above described construction provides an automatic pressure actuated shut-off valve sensitive to motor load over a range of motor operating pressures.

D. PRINCIPLES OF LAW

Rejections based on 35 U.S.C. § 103 must rest on a factual basis. *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). In making such a rejection, the examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the inventions is patentable, resort to

speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. *Id.*

E. ANALYSIS

The Examiner rejected claims 56-61 and 70-73 as unpatentable under 35 U.S.C. § 103(a) as unpatentable over: (1) Mitchell and Spring; and (2) Spring and Whitehouse.

Mitchell and Spring

We focus on the disputed limitations. CP disputes that Mitchell's control apparatus controls the time that torque is applied by the tool as required by each of independent claims 56, 60, and 70. (App. Br. 5:12-13.)

Each of independent claims 56, 60, and 70 includes a limitation that requires shutting off an air flow to a tool after a selected time during which torque is applied by the tool.

In claim 56 the limitation reads (Claims App'x 13:3-5):

providing a modular control apparatus having a valve in fluid communication with a tool, wherein said apparatus is configured to shut off air flow to the tool after a selected time that torque is being applied by the tool;

In claim 60 (Claims App'x 14: 2-5):

attaching the pneumatic modular control apparatus to a pneumatic tool, wherein said modular apparatus includes a device having a valve in fluid communication with the tool, wherein the device is configured to shut off air flow to a motor of the tool in response to a selected time that torque has been applied by the tool has been reached;

In claim 70 (Claims App'x 16:11-14):

providing a modular control apparatus having an alignment mechanism for aligning the modular control apparatus with a tool,

wherein said apparatus is configured to shut off air flow to the tool after a selected time that torque is being applied by the tool controlled by a valve in fluid communication with the tool;

The Examiner found the above-quoted limitations satisfied by Mitchell, pointing to column 5, lines 48-51, 55-59 and 65-67. (Ans. 3:20-21; 4:19-20.)

Mitchell discloses a torque controlling device for an impact wrench in which operation of the wrench is “automatically controlled or stopped when the work, such as a nut or bolt, has been tightened to a predetermined degree.” (Mitchell 1:14-19.) In particular, Mitchell discloses an impact wrench that includes an impact clutch housing 10 at a forward end of the wrench, a rotary pneumatic motor housing 11 centrally located, and a valve block 12 at a rear end of the wrench. (Mitchell 2:67-3:3.) In order to prevent the wrench from twisting a bolt 17 beyond a desired degree of tightness, the valve block 12 includes a torque controlling device. (Mitchell 4:31-40.)

The torque controlling device includes an inertia cam 42 that engages an inertia ring 46. (Mitchell 4:41-50). Inertia ring 46 is adapted to rotate with inertia cam 42 until a sudden and rapid reduction in the rotational speed of the inertia cam. (Mitchell 4:50-56.) When the speed of inertia cam 42 is rapidly reduced, inertia ring 46 continues to rotate, which causes actuation of an auxiliary torque limiting valve 29. (Mitchell 4:52-65; 5:48-55.) Actuation of valve 29 causes air from an air supply passage 23 to be cut off causing the wrench’s pneumatic motor to shut off. (Mitchell 5:55-69.)

Each of CP’s independent claims requires that a modular control apparatus operates to shut off the air flow to a tool “after a selected time” that torque is applied by a tool. Mitchell’s torque controlling device neither

operates based on any timing function nor is dependent on selecting a time that torque is applied. Instead, as discussed above, the device shuts off an air flow in response to continued rotation of inertia ring 46 without rotation of cam 42. The Examiner does not explain, nor is it apparent to us, how Mitchell satisfies the requirement of providing a control device that is configured to shut off an air flow “after a selected time” that torque is applied.

We do not sustain the rejection of independent claims 56-61 and 70-73 under 35 U.S.C. § 103(a) as unpatentable over Mitchell and Spring.

Spring and Whitehouse

The Examiner also rejected claims 56-61 and 70-73 under 35 U.S.C. § 103(a) as unpatentable over Spring and Whitehouse. As with the Mitchell and Spring combination, CP disputes that Spring and Whitehouse teach a control device that shuts off an air flow “after a selected time” that torque is applied by a tool as required by each of claims 56, 60, and 70. (App. Br. 10:21-26.)

The Examiner determined that Spring discloses all the limitations of the claims except for the requirement of a control apparatus that is configured to shut off air flow to a tool “after a selected time” that torque is applied. To remedy the deficiency, the Examiner turned to Whitehouse. The Examiner states (Ans. 7:6-10; 8:10-14; 9:7-11):

Whitehouse teaches torque tool including shutting off air flow to a tool after a selected time that torque is being applied by the tool, for example, “power tool which is capable of responding during its application with minimal time delay in tool shut-off to provide superior uniformity and reliability of operation in precisely setting a workpiece to a degree of tightness” (col. 1, lines 56-60).

The portion of Whitehouse quoted by the Examiner does not teach that an air flow to a tool is shut off “after a selected time.” Instead, that portion simply describes a “minimal time delay” for shutting off an air flow once the desired degree of tightness of a workpiece has been reached. In Whitehouse, air flow to a tool motor is automatically shut off after a desired fastener torque is developed. (Whitehouse 1:31-41.) Thus, there is a “minimal time delay” between the development of the desired fastener torque and the air flow shut-off. That “minimal time delay” does not correspond to the requirement that a shut-off time is “selected.”

Furthermore, no other portion of Whitehouse teaches that a time is “selected” for the shut-off of an air flow to a tool. In Whitehouse, a torque control shut-off device 52 operates to shut off air flow to a tool motor 14. (Whitehouse 5:35-37.) To enable the shut-off, device 52 includes a valve 112 that is “designed to be responsive to variations in motor operating pressure.” (Whitehouse 5:37-39.) Whitehouse further discloses that (Whitehouse 7:26-30):

Since motor operating pressure is a function of the load on motor 14, the above described construction provides an automatic pressure actuated shut-off valve sensitive to motor load over a range of motor operating pressures.

Thus, rather than being based on a “selected time,” the air flow shut-off in Whitehouse is based on a sensed load on the motor. The Examiner erred in finding that Whitehouse satisfies the step in each of claims 56, 60, and 70 of providing a control device that is configured to shut off an air flow “after a selected time.”

We do not sustain the rejection of claims 56-61 and 70-73 under 35 U.S.C. § 103(a) as unpatentable over Spring and Whitehouse.

F. CONCLUSION

1. CP has shown that the Examiner erred in determining that Mitchell discloses a control device that shuts off a flow of air to a pneumatic tool “after a selected time” that torque is applied by the tool.

2. CP has shown that the Examiner erred in determining that Whitehouse discloses a control device that shuts off a flow of air to a pneumatic tool “after a selected time” that torque is applied by the tool.

G. ORDER

The rejection of claims 56-61 and 70-73 under 35 U.S.C. § 103(a) as unpatentable over Mitchell and Spring is reversed.

The rejection of claims 56-61 and 70-73 under 35 U.S.C. § 103(a) as unpatentable over Spring and Whitehouse is reversed.

REVERSED

MAT

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